



# Transfomable Gliding Chair with Electric Actuator

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## PARTS:

- [Cut parts according to parts lists below. \(1\)](#)

## SUMMARY

This chair not only allows you to relax, but also can alleviate disease. To do this, it transforms into a couch. The couch sways under the influence of light movements of your hands or by an electric actuator. As a result, all the internal organs are massaged. This therapeutic procedure is called Whole Body Periodic Acceleration (WBPA). It was developed by NIMS, founded by Martin Sackner. The company has developed a couch called the Exer-Rest costing several thousand dollars. I managed to create a similar effect with this device, which costs ten times less.

Making the chair is easy: You buy a sheet of plywood at Home Depot along with several boards and planks. Home Depot will cut them to your size specifications. You will need to round off the corners of a few of the parts and buy screws, glue, twine, and cabinet hinges. Then you can begin to assemble the chair. All the materials will cost no more than \$200.

The chair can function even without the actuator. If you want to use an electric actuator, then you need to buy a motor, pins, nuts, washers, and make or order a crank. On it you will

spend no more than \$100.

The chair can be used in three configurations:

- 1 - Gliding chair
- 2 - Gliding chair with retractable footrest
- 3 - Couch for dynamic massage

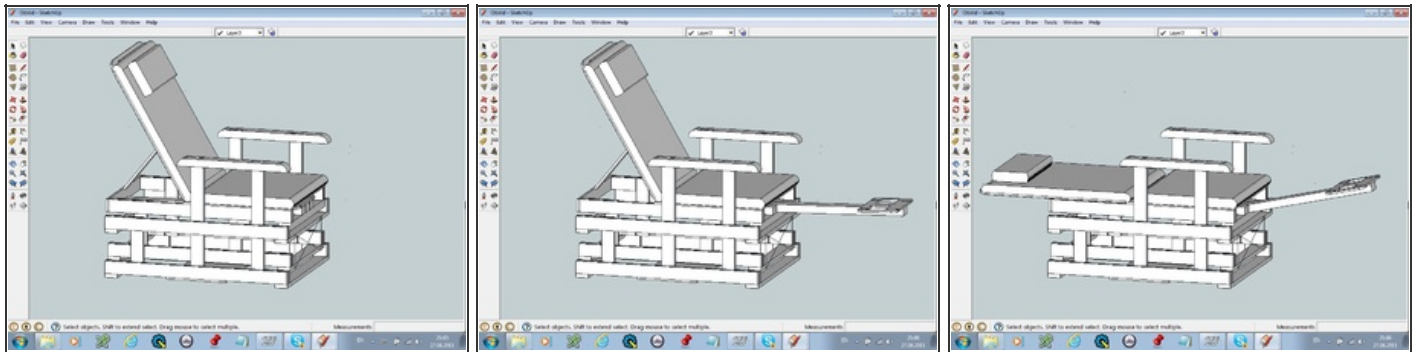
The third configuration is especially important. It allows you to carry out the WBPA therapy.

Independent researchers have reported the following:

- “This study demonstrates that WBPA improves Coronary Flow Reserve (CFR) in healthy subjects and patients with Coronary Artery Disease (CAD).” American Heart Journal, April 2010: “Passive exercise” Using Whole Body Periodic Acceleration: Effects on Coronary Microcirculation.
- “Our results show that periodic acceleration may provide a novel, affordable, non-invasive therapeutic option for the treatment of stroke.” Neuroscience, February 2009: Whole-Body Periodic Acceleration Reduces Brain Damage in a Focal Ischemia Model.
- “WBPA with a horizontal motion platform improved vascular endothelial function in sedentary adults. This device might offer an alternative to active exercise for patients whose medical condition limits physical activity.” Circulation Journal, January 2008: Whole-Body Periodic Acceleration Enhances Brachial Endothelial Function.
- “In patients with severe heart failure and with leg claudication who remain symptomatic despite maximal medical therapy and who were not candidates for surgery, WBPA applied over several weeks improved quality of life and exercise capacity. The clinical benefits appear to be mediated through improved endothelial function.” VASA, 2007: Periodic Whole Body Acceleration: A novel therapy for cardiovascular disease.
- “Application of WBPA hastens recovery from DOMS (Delayed Onset of Muscle Soreness) after eccentric exercise. Given the lack of other potential mechanisms, these effects appear to be mediated by the increased NO release with WBPA.” American College of Sports Medicine Conference on Integrative Physiology of Exercise (Poster Presentation), September 25, 2010: Whole Body Periodic Acceleration Reduces Levels of Delayed Onset Muscle Soreness after Eccentric Exercise.

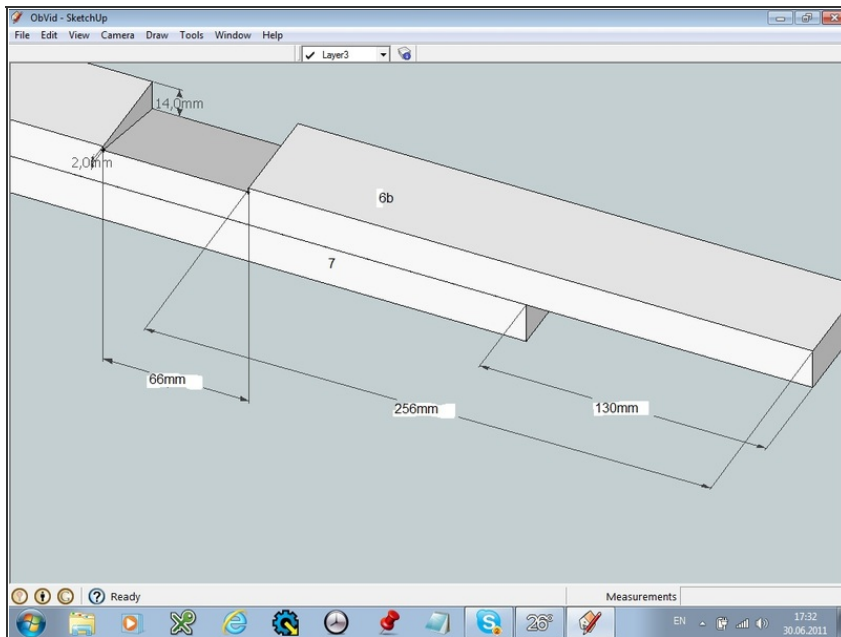
The Exer-Rest is available in two models, the AT3800 and the 9-inch wider version AT4700. Each is equipped with a memory foam mattress, pillow, knee riser, wireless touch-screen remote controller, and a small and large pair of shoes. Each Whole Body Periodic Acceleration session involves the user lying down on the mattress and adjusting the digital remote controller for speed, travel and time prior to starting the Exer-Rest.

### Step 1 — Transformable Gliding Chair with Electric Actuator



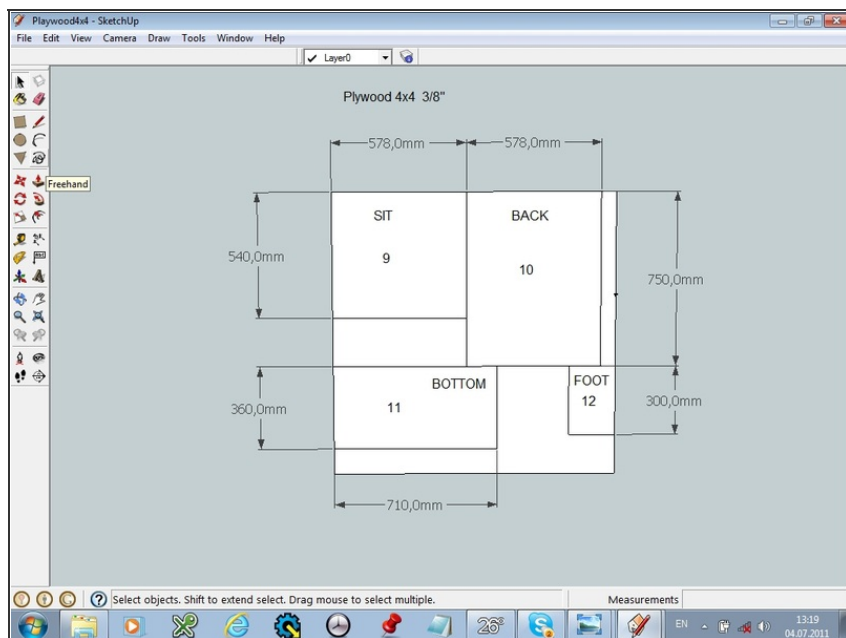
- The chair can be used in three configurations: gliding chair, gliding chair with retractable footrest, or couch for dynamic massage.

### Step 2



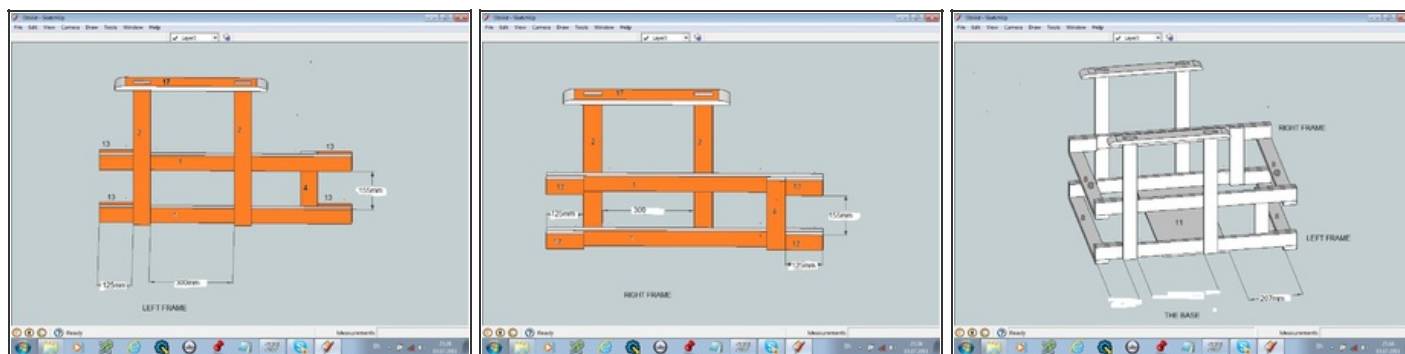
- Cut parts according to this list from 64x19mm (3"x1") stock. #1: 915mm (10). #2: 600mm (4). #4: 283mm (6). #5: 150mm (2). #6: 578mm (2). #6@: 578mm (2). Round the edges radius 9mm along the entire length except at the ends 50mm. #6b: 578mm (1). Make a groove in accordance with the drawings. #7: 318mm (1). #8: 710mm (2). #8@: 710mm (2). #13: 125mm (8). #14: 140mm (8). #15: 380mm (1). #16: Heavy-duty strap 6". #17: 550mm (2). #18: 370mm (2).

## Step 3



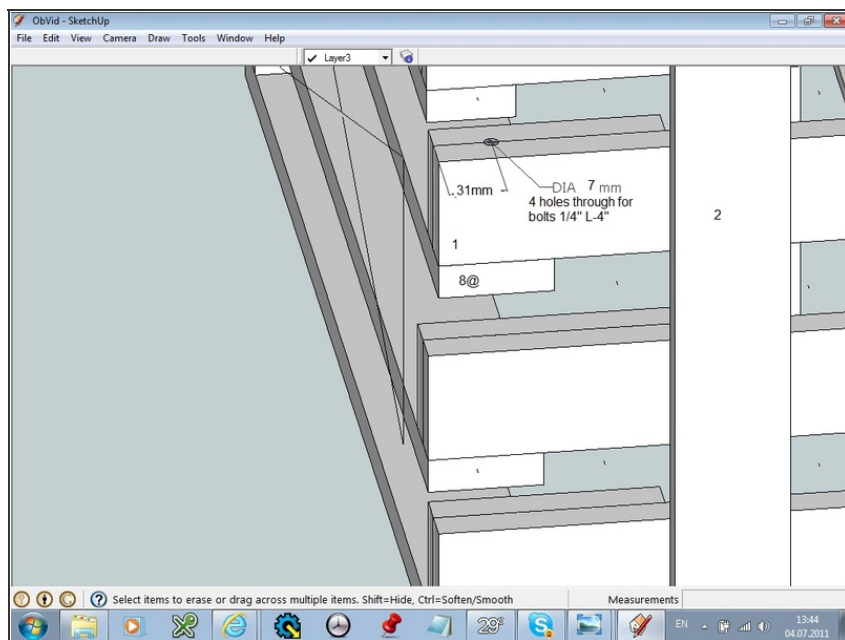
- Cut these parts from a 4x4 sheet of 1/2" plywood. # 9: 540x578mm (1). #10: 750x578mm (1). #11: 710x360mm (1). #12: 300x200mm (1).

## Step 4



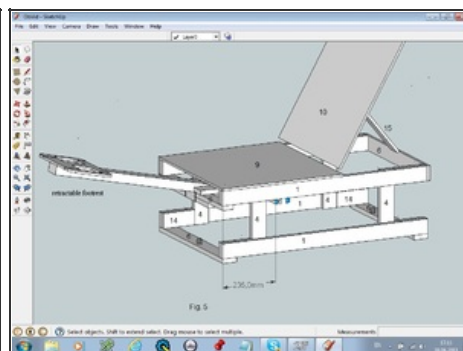
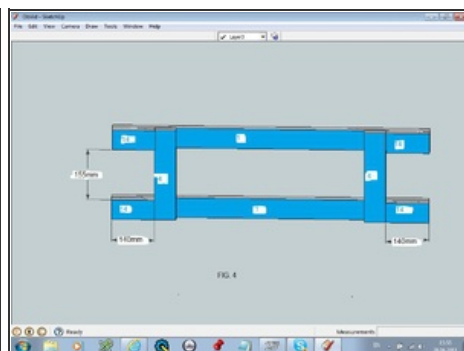
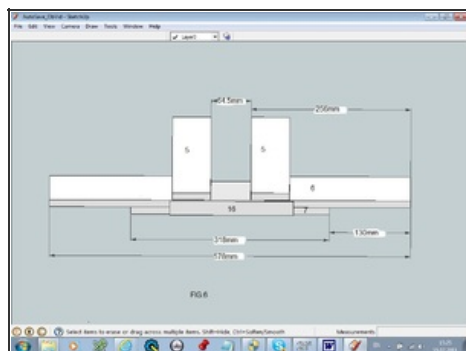
- Build the base. First build left and right frames of the base (Fig. 1 and 2). Assemble the base (Fig. 3). Use screws 1-1/4" long and glue.

## Step 5



- Attachment detail of part 8@. Use bolt 1/4" L-4".

## Step 6



- Build a swinging part Build of the guide · Screw the plate 19 to 14 · Screw the details of 20 to 14. Parts 20 and 14 should be perpendicular. (FIG. 6). Bbuild two frames of the swinging part. (Fig. 4) Assemble of the swinging part. (Fig. 5) Use woodscrews long 1-1/4 "and glue.

## Step 7



- Connect 10 and 9 by means of hinges. Connect 15 and 6 by means of hinges. Connect 18 and 1 by means of wood screws and glue.

## Step 8



- Screw 4 wood screws in 6. Screw 8 wood screws in 8.

## Step 9

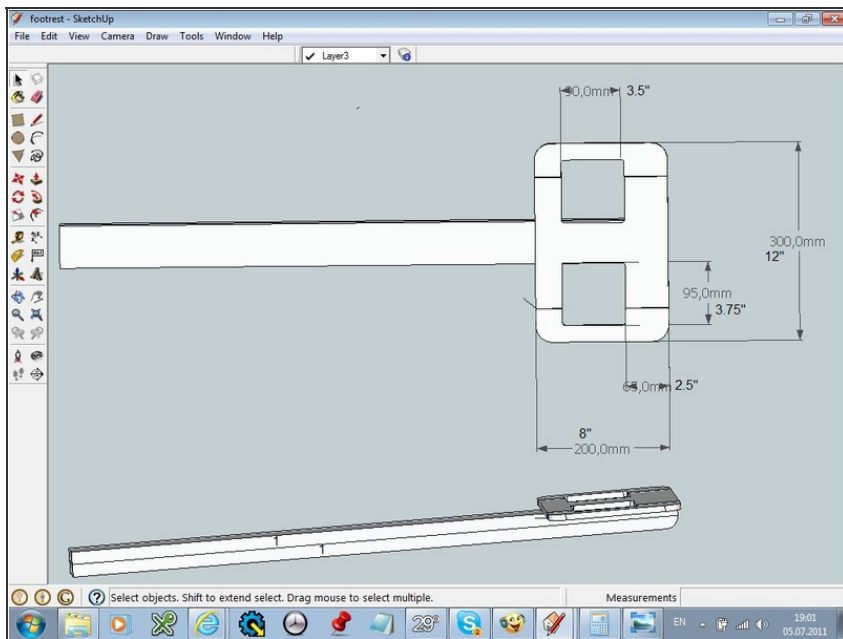
- Insert gliding part into the base.

## Step 10



- Tie gliding part to the base.

## Step 11



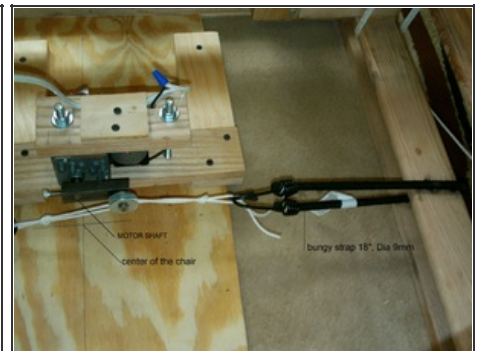
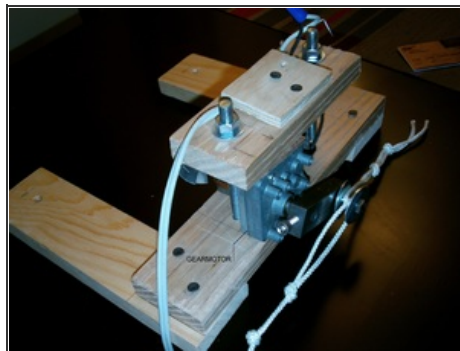
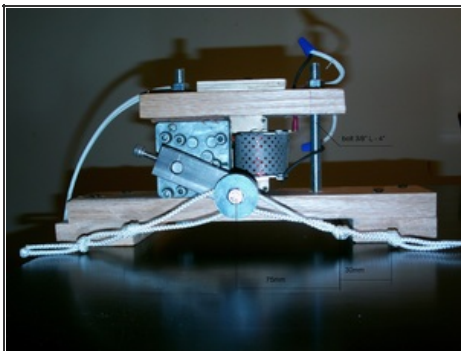
- Make the footrest.

## Step 12



- Make the crank.

## Step 13



- Make the electric actuator. Use gearmotor (item 5-1572) from surplus center. Connect electric actuator to gliding part and to the base.

## Step 14



- Add the mattress and use your new gliding chair.

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